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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,627	09/08/2003	Joon Keun Lee	434/1/004	1539

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EXAMINER	
HERRING, LISA L	

ART UNIT	PAPER NUMBER
1731	

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/657,627	LEE ET AL.	
	Examiner	Art Unit	
	Lisa Herring	1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 September 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *11/21 & 9/08 2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Interpretation

1. In Claim 9 a violet ray hardening apparatus is interpreted as equivalent to an ultraviolet curing apparatus, which is typically used in the art of drawing and coating optical fibers.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 7-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 7, applicant states the optical fiber standard value controller unit comprises:

i) an optical fiber diameter controller unit...; and

ii) an optical fiber fabricating unit...

The applicant has failed to specifically define the optical fiber standard value controller unit and fails to define this unit by grouping together the diameter controller unit and an optical fiber fabricating unit in the specification.

Additionally, applicant has failed to define the optical fiber fabricating unit in the specification and, in claim 8, the applicant has failed to define this unit in the specification by grouping together a cooling apparatus, a coating apparatus, and a violet

ray hardening apparatus. These apparatuses are mentioned in the specification as part of the optical fiber draw tower, but not specifically grouped together to form a unit.

Therefore, in claim 7, the examiner broadly interprets the optical fiber standard value controller unit as comprising an optical fiber diameter controller unit and any other unit in the drawing apparatus. The optical fiber fabricating unit has been interpreted to include any unit other than the diameter controller unit, since these units have not been defined by the specification. In claim 8, the examiner interprets as long as there is a cooling apparatus, a coating apparatus, and a violet ray hardening apparatus, interpreted as an UV curing apparatus, it sufficiently meets the limitations of claim 8, since the applicant failed to define these units as being specifically grouped together in the specification.

Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). These terms are indefinite because the specification does not clearly redefine the term. Appropriate correction is required.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoshida et al. (WO00/44680). For the rejection, the U.S. patent of Yoshida et al. (6,519,404) will be used in lieu of Yoshida et al. (WO00/44680), since it is considered to be the English equivalent.

Yoshida (Figs. 2 and 3) discloses an optical fiber drawing apparatus comprising:

i) a heating furnace (12) adapted to melt an optical fiber mother material and to draw an optical fiber

ii) an optical fiber standard value controller unit adapted to control standard values of the optical fiber draw by disclosing a diameter gauge (14) and a controller (not shown) controls the drawing speed, feed speed of the preform, etc. to keep the fiber diameter in a prescribed range(Col. 1 line 43-46)

iii) a fixing roller disclosed as guide rollers 3, 6, 22, 24, and 25 adapted to change a drawing direction of the optical fiber

iv) at least one or more moving rollers 4, 5, and 23 which are movable on a drawing surface for adjusting curvature radius of the optical fiber (Col. 6, lines 33-41 and Fig. 2); and

v) a winding apparatus disclosed as a winding reel (27) to wind the optical fiber which has an adjusted curvature radius.

vi) said optical fiber standard value controller unit comprises

a) an optical fiber diameter controller to measure and control the diameter of the optical fiber by disclosing a diameter gauge (14) and a controller (not shown)

b) an optical fiber fabricating unit by disclosing coating apparatuses (15 and 18) and UV emitters (17 and 20).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida et al. (WO00/44680) in view of Iyengar (4,410,344), Komiya et al. (JP04361205), and Blaszyk et al. (6,324,872). Yoshida fails to disclose details of how the rollers are attached to the tower. However, it is well known that a bracket is typically used to connect a roller to a device, as evidenced by Figs 1.. a roller device, such as a sheave, which is interpreted as equivalent to a roller, is illustrated as connected to a bracket on the draw tower. In addition, Komiya further discloses a moveable roller device (9) connected to a bracket, such as a base plate (7), with a guide rail (8) to hold the roller device (9). Further, Blaszyk discloses brackets, such as base plates 141 and 142) or yokes (250 and 281) (Fig. 6) and discloses it is well known in the art to attach a shaft to a rolling device, such as a pulley or roller (Fig. 1). Yoshida, Iyengar, Komiya, and Blaszyk are analogous art because they are from the same field of endeavor, such

as disclosing how to guide an optical fiber during processing. Accordingly, it would have been obvious to one skilled in the art at the time the invention was made to provide a bracket connected to said at least one or more moving rollers, since it is well known in the art in order to connect a roller to an apparatus, a bracket is typically used, as evidenced by Iyengar and Komiya.

Regarding claim 5, Blaszyk discloses an apparatus with rollers connected to a bracket, such as yokes 250 and 281, capable of movement in a transverse direction with respect to a drawing plane (fig. 6).

5. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida et al. (WO00/44680) in view of Iyengar (4,410,344), Komiya et al. (JP04361205), and Blaszyk et al. (6,324,872) as applied to claim 5 above, and further in view of Butterworth-Heinemann (Dictionary of Engineering Terms) and Sclater et al. (Mechanisms & Mechanical Devices Sourcebook, 2001). Blaszyk clearly shows the apparatus to impress spin on the optical fiber has many links, such as yokes, brackets, pivot jointed connecting rods, pivot links, slides, etc. in order to impart motion on the roller devices to translate motion into the fiber in order to impart spin (Figs. 4 and 6), but fails to disclose the apparatus to impress spin to the optical fiber includes a link connected to a CAM. However, it is well known in the art a CAM can be sued to impart motion on a mating component, as evidenced by the definition of a CAM disclosed by Butterworth-Heinemann and the assortment of CAM devices disclosed by Sclater pg. 207. Accordingly, it would have been obvious to one skilled in the art at the time the invention was made to substitute a link connected CAM to the apparatus of Blaszyk,

since it is well known in the art that a link connected CAM may be used in lieu of other devices in order to impart motion on a device.

6. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida et al. (WO00/44680) in view of Iyengar (4,410,344), Komiya as et al. (JP04361205), and Blaszyk et al. (6,324,872) as applied to claim 2 above, and further in view of Sclater et al. (Mechanisms & Mechanical Devices Sourcebook, 2001). As discussed previously, Komiya discloses a vertical guide rail in order for the roller device to move in the vertical direction and Blaszyk discloses shafts connect to roller devices (fig. 1). Komiya and Blaszyk fail to disclose a guide is formed by a vertical groove in the bracket. However, it is well known in the art a groove may be used as an equivalent guiding mechanism in lieu of a guide rail, as evidenced by Sclater. Sclater discloses various shapes and configurations of slotted materials which guide motion (pg. 208 Figs. 9 and 10 and pg. 231). Komiya and Sclater are analogous art because they are from the same field of endeavor, such as guiding motion. Komiya guides the roller device using a guide rail and Sclater guides a roller device on pg. 231 with a groove in a bracket. Accordingly, it would have been obvious to one skilled in the art at the time the invention was made to substitute a vertical groove for a vertical guide rail, since it is known in the art that the groove and the rail guide motion of a device connected to a groove or rail as evidenced by Sclater.

7. Regarding claim 4, Blaszyk (fig. 6) discloses pivot joints installed in one side of the bracket, which includes yokes 250 and 281. The yokes are connected to roller devices for spinning an optical fiber. The pivot joints attached to the yokes and

connecting rods 283 and 285 provide additional motion in the roller devices to impart spin on the optical fiber. Accordingly, it would have been obvious to one skilled in the art at the time the invention was made to further include a pivot joint, in order to provide for additional motion, as taught by Blaszyk in order to properly spin the fiber.

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida et al. (WO00/44680) as applied to claims 1 and 7 above, and further in view of Do (6,055,830). Yoshida fails to disclose a fiber diameter controller unit further comprises a capstan adapted to draw an optical fiber having a particular diameter with respect to the diameter measured. However, it is well known in the art to provide a capstan with a diameter controller unit to control the diameter, as evidenced by Do. Do discloses a capstan (110) provides the pulling force applied to the bare optical fiber. An outer diameter detector makes a determination as to whether an outer diameter of the bare optical fiber conforms to a predetermined value. Then, the outer diameter detector provides the result to a diameter controller. By controlling the capstan, the diameter controller maintains the diameter of the bare optical fiber (Col. 3 lines 8-21).

9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida et al. (WO00/44680) as applied to claims 1 and 7 above, and further in view of Roba (6,371,394). Yoshida fails to disclose a cooling apparatus adapted to cool the fiber melted in the heating furnace. However, Roba discloses a cooling device (9) underneath the furnace and the diameter sensor to allow rapid cooling of the fiber at relatively high draw speeds in order to obtain a temperature suitable for the successive processing steps and, in particular, for the surface coating. Accordingly, it would have

been obvious to one skilled in the art at the time the invention was made to further include a cooling apparatus in the apparatus of Yoshida, for the advantage of rapidly cooling the fiber at faster drawing rates to obtain a temperature suitable for the coating process, as taught by Roba.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lisa Herring whose telephone number is 571-272-1094. The examiner can normally be reached on Mon-Fri. 7:30 am-4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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